

costvar, *c*
blocks, *x*, *y*, *z*, *f*
baseAttackVar, *b*
index, *i*, *j*, *k*
A, *B*, *C*

$::=$
 $|$ *b*
 $|$ $A \times B$
 $|$ \top
 $|$ $A \odot B$
 $|$ $A \triangleright B$
 $|$ $A \multimap B$
 $|$ $A \multimap\multimap B$
 $|$ (A)
 $|$ *A*
 $|$ **on** *x y*
 $|$ **table** *x*
 $|$ **holds** *x*
 $|$ **empty**
 $|$ **clear** *x*

$\Gamma, \Delta, \Theta, \Psi$

$::=$
 $|$ \cdot
 $|$ *A*
 $|$ Γ, Γ'

$\boxed{\Delta; \Gamma \vdash A}$

$\frac{}{\cdot; A \vdash A} \text{VAR}$

$\frac{}{A; \cdot \vdash A} \text{VARC}$

$\frac{}{\cdot; \cdot \vdash \top} \text{TOP}$

$\frac{\Delta_1; \Gamma \vdash A \quad \Delta_2; \Gamma \vdash B}{\Delta_1, \Delta_2; \Gamma \vdash A \times B} \text{CONJI}$

$\frac{\Delta; \Gamma \vdash A \times B}{\Delta; \Gamma \vdash A} \text{CONJE1}$

$\frac{\Delta; \Gamma \vdash A \times B}{\Delta; \Gamma \vdash A} \text{CONJE2}$

$\frac{\Delta_1; \Gamma_1 \vdash A \quad \Delta_2; \Gamma_2 \vdash B}{\Delta_1, \Delta_2; \Gamma_1, \Gamma_2 \vdash A \odot B} \text{PARAI}$

$\frac{\Delta_1; \Gamma_2 \vdash A \odot B \quad \Delta_2; \Gamma_1, A, B, \Gamma_3 \vdash C}{\Delta_1, \Delta_2; \Gamma_1, \Gamma_2, \Gamma_3 \vdash C} \text{PARAE}$

$\frac{\Delta_1; \Gamma_1 \vdash A \quad \Delta_2; \Gamma_2 \vdash B}{\Delta_1, \Delta_2; \Gamma_1, \Gamma_2 \vdash A \triangleright B} \text{SEQI}$

$\frac{\Delta_2; \Gamma_1 \vdash A \triangleright B \quad \Delta_1, A, B, \Delta_3; \Gamma_2 \vdash C}{\Delta_1, \Delta_2, \Delta_3; \Gamma_1, \Gamma_2 \vdash C} \text{SEQE}$

$$\begin{array}{c}
\frac{\Delta; \Gamma_1, A, B, \Gamma_2 \vdash C}{\Delta; \Gamma_1, B, A, \Gamma_2 \vdash C} \text{ EX} \\
\\
\frac{\Delta; \Gamma, A \vdash B}{\Delta; \Gamma \vdash A \multimap B} \text{ IMPI} \\
\\
\frac{\Delta_1; \Gamma_1 \vdash A \multimap B \quad \Delta_2; \Gamma_2 \vdash A}{\Delta_1, \Delta_2; \Gamma_1, \Gamma_2 \vdash B} \text{ IMPE} \\
\\
\frac{\Delta_2; \Gamma_2 \vdash A \multimap B \quad \Delta_1; \Gamma_1 \vdash B \multimap C}{\Delta_1, \Delta_2; \Gamma_1, \Gamma_2 \vdash A \multimap C} \text{ COMP} \\
\\
\frac{}{\cdot; \text{empty}, \text{clear } x \vdash (\text{holds } x) \odot (((\text{table } x) \multimap \top) \times ((\text{on } x \ y) \multimap (\text{clear } y)))} \text{ GET} \\
\\
\frac{}{\cdot; \text{holds } x \vdash \text{empty} \odot (\text{clear } x) \odot ((\text{table } x) \times ((\text{clear } y) \multimap (\text{on } x \ y)))} \text{ PUT}
\end{array}$$

Definition rules: 16 good 0 bad
 Definition rule clauses: 27 good 0 bad